Cyclodienes in Water

• Intended Use

For detection of cyclodienes in water samples: groundwater, surface water, well water, effluent.

• Materials Required but Not Provided

Cyclodiene Water Stabilizer*.

*Available from Strategic Diagnostics Inc.

• Sample Information

Water samples should be collected in glass vessels with teflon in the cap liners. **Immediately** upon collection, samples should be diluted with Cyclodienes Water Stabilizer (1 part Water Stabilizer: 3 parts water sample), to prevent adsorptive losses.

After samples are diluted, those samples containing gross particulate matter should be centrifuged or allowed to settle to remove particles.

• Procedural Notes and Precautions

Prepare water samples as described above. Follow the assay procedure as described in the Cyclodienes RaPID Assay® kit package insert.

As with all immunoassays, a consistent technique is the key to optimal performance. To obtain the greatest precision, be sure to treat each tube in an identical manner.

Add reagents directly to the bottom of the tube while **avoiding contact between the reagents and the pipet tip**. This will help assure consistent quantities of reagent in the test mixture.

Avoid cross-contaminations and carryover of reagents by using clean pipets for each sample addition and by avoiding contact between reagent droplets on the tubes and pipet tips.

• Results

Multiply the sample and control results by a factor of 1.33 to account for the initial 1:3 dilution of sample with methanol. Alternatively, program the RPA-I™ Analyzer as listed below to automatically correct for the dilution factor.

Using the RPA-I™ RaPID Analyzer, calibration curves can be automatically calculated and stored. Refer to the RPA-I operating manual for detailed instructions. To obtain results from the cyclodienes RaPID Assay on the RPA-I the following parameter settings are recommended:

Data Reduct	:	Lin. Regression
Xformation	:	Ln/LogitB
Read Mode	:	Absorbance
Wavelength	:	450 nm
Units	:	PPB
# Rgt Blk	:	0

Calibrators:

# of Cals	:	4
# of Reps	:	2

Concentrations:

#1:	0.00	PPB
#2:	1.33	PPB
#3:	9.98	PPB
#4:	26.6	PPB

Range	:	0.60 - 26.6
Correlation	:	0.990
Rep. %CV	:	10%

• Expected Results

In a study with over 168 water samples from locations across the U.S., no interferences were observed using the Cyclodienes RaPID Assay.

• Performance Data

Sensitivity

The Cyclodienes RaPID Assay has an estimated minimum detectable concentration in water, based on a 90% B/Bo of
0.60 ppb.

Recovery

Four (4) samples, including a well, pond, runoff and tap water were spiked with various levels of cyclodienes (dieldrin), diluted 1:3 with Water Stabilizer, and then assayed using the Cyclodienes RaPID Assay. The following results were obtained:

Amount of Dieldrin Added (ppb)	Recovery Mean (ppb)	Recovery S.D. (ppb)	Recovery %
3.0	3.20	0.72	107
6.0	5.72	0.78	95
10.0	9.57	0.76	96
15.0	13.68	1.08	91
Average			97

Precision

The following results were obtained:

Control	1	2	3	4
Replicates	5	5	5	5
Days	5	5	5	5
n	25	25	25	25
Mean (ppb)	2.90	6.03	10.0	14.49
% CV (within assay)	12.8	11.8	8.4	9.8
% CV (between assay)	10.9	<0.1	<0.1	3.8

• Assistance

For ordering or technical assistance contact:

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111 Pencader Drive
Newark, Delaware 19702-3322 USA
Phone(800)544-8881 Fax(302)456-6782
www.sdix.com
techservice@sdix.com

• Availability

Strategic Diagnostics Inc.
- Cyclodienes RaPID Assay
  - 30 Test Kit
  - 100 Test Kit
- Cyclodienes Proficiency Samples
- Cyclodienes Sample Diluent
- Cyclodienes Water Stabilizer